STATE OF WASHINGTON

GOVERNOR'S SALMON RECOVERY OFFICE

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January 29, 2007

Mr. Steve Landino, Washington State Director
Habitat Conservation Division/NMFS
510 Desmond Drive SE
Suite 103
Lacey, Washington 98503

Mr. Landino,

The State of Washington submits the guidelines and supporting documentation (Washington State Submittal package) with this letter for consideration by your office for qualification of take limits under 4(d) rule habitat restoration Limit 8. We believe the safeguards we have put in place will assure the National Marine Fisheries Service (NMFS), other federal agencies, and the public that projects undertaken by the Washington's Salmon Recovery Funding Board do not risk violating take prohibitions of the Endangered Species Act.

The State's Submittal Package describes that the guidelines for habitat restoration, which compose the Habitat Restoration Program, are indeed implemented according to Watershed Conservation Plans, which are themselves integral to regional salmon recovery plans developed with State assistance. We believe that all the elements of CFR 223.203(b)(8) are therefore met.

We look forward to an affirmative reply to this request in the near future.

Sincerely,

Chris Drivdahl
Governor's Salmon Team Leader

WASHINGTON STATE SUBMITTAL PACKAGE

Attachment A
GUIDELINES FOR HABITAT RESTORATION PROJECTS

The following narrative describes the guidelines for development, review, and selection of salmon habitat protection and restoration projects for funding by the Washington State Salmon Recovery Funding Board (SRFB). This process is consistent with the framework for habitat restoration projects eligible for ESA compliance through 4(d) Limit 8.

Development of Regional Salmon Recovery Plans

In December 2003, the State of Washington submitted to NMFS the document "An Outline for Salmon Recovery Plans" (Outline; WDFW 2003a) which provides specific guidelines to assist the regional organizations (Table 1) in developing salmon recovery plans in a manner that can be implemented and lead to recovery of salmon. In January 2004, NMFS endorsed this Outline as a framework to develop plans which meet the recovery planning requirements of the Endangered Species Act (ESA) for threatened and endangered salmon and steelhead (Lohn 2004). This Outline specified that each regional recovery plan had, at a minimum, the following elements:

- **Scientific assessments** of the status of the species and its habitat;
- **Factors for decline**, threats to viability, and/or factors limiting recovery of the species, and factors supporting current populations;
- **Measurable goals** that describe recovery for the listed species (in terms of population performance, environmental health, and administrative accountability) and again which the success of actions will be measured;
- **Actions and commitments** for habitat, harvest, hatcheries, and hydropower that are necessary to reduce or eliminate the limiting factors and recover fish populations;
- **Implementation** components such as timelines, funding identification of responsible parties and authorities, research needs, monitoring plans, and a method for evaluating actions and adapting the plan.

In October 2003, the SRFB provided funds to six regional organizations to develop recovery plans consistent with the Outline, and specified they be completed by December 2005. The regional organizations of Washington State completed their draft salmon recovery plans and submitted them to the Governor's Salmon Recovery Office (GSRO), fulfilling their contractual requirements to SRFB. After soliciting comments from stakeholders, local, state, tribal, and federal governments, the GSRO accepted the plans as fulfilling the elements of the Outline. The NMFS has since been in the process of integrating these regional recovery plans with other administrative actions and plans for publication in the Federal Register.

Recovery Plan Implementation Schedules

After completion of their draft recovery plans, Regional Organizations received funding from SRFB to develop a means to implement their recovery plans. This Implementation Schedule was to include, but not be limited to:

- A means to integrate watershed and salmon planning processes within the region.

- A cost estimate of near-term projects required for early implementation of the recovery plan.
- If necessary, an estimate of the time and costs required for local government administrative rule setting to implement the plan.
- The linkage of each proposed project with a factor identified in the Salmon Recovery Plan as limiting recovery of salmon (Table 2);
- If necessary, recommendations on state and federal government administrative rule setting to implement the plan.

As stated above, Regional Organizations developed plans to recover salmonids listed under the ESA. Each of these plans has an Implementation Schedule that identifies site-specific actions to be taken over a specific time frame to carry out the objectives of the recovery plan. The SRFB provides funds to the regions to generate the recovery plan implementation schedules, and to submit a regionally-ranked project list in accordance with criteria that are directly linked to these implementation schedules and recovery of ESA-listed species. On a regular basis (typically once a year), the SRFB funds salmon habitat projects that are based on actions identified in these implementation schedules.

Table 1. Regional Organizations in Washington State that have adopted recovery plans for the following salmonid species listed as threatened under the ESA:

Regional Salmon Recovery Organization	ESA listed species covered in regional plans
Snake River Salmon Recovery Board	Snake River Basin steelhead Middle Columbia River steelhead Snake River Basin spring/summer Chinook salmon Snake River Basin fall Chinook salmon[1] Columbia River bull trout[2]
Yakima Basin Fish and Wildlife Recovery Board	Middle Columbia River steelhead Columbia River bull trout
Lower Columbia Fish Recovery Board	Lower Columbia River steelhead Lower Columbia River spring Chinook salmon Lower Columbia River coho salmon Columbia River chum salmon Columbia River bull trout
Upper Columbia Salmon Recovery Board	Upper Columbia River steelhead Upper Columbia River spring Chinook salmon[3] Columbia River bull trout
Puget Sound Shared Strategy	Puget Sound Chinook salmon

[1] Snake River fall Chinook salmon are not included in this Biological Opinion.
[2] The administration of bull trout under the ESA is covered by the U.S. Fish and Wildlife Service, and is not included in this Biological Opinion.
[3] Upper Columbia spring Chinook salmon are listed as Endangered under the ESA and are not included in this Biological Opinion.

Hood Canal Coordinating Council	Hood Canal summer chum salmon

Technical and Procedural Review of SRFB-Funded Projects
The following describes the process to: 1) set up a mechanism to link recovery plan Implementation Schedules with SRFB funding; 2) develop projects consistent with these schedules; 3) conduct the technical review of the projects; 4) rank the projects in terms of their fit to the implementation schedules; and ultimately 5) monitor their efficacy in meeting the goals of the salmon recovery plans.

1. Linkage of Implementation Schedules with SRFB funding

In 1998, Washington State Legislature directed Washington Department of Fish and Wildlife (WDFW) to support the development of Lead Entities throughout Washington State (RCW 75.85.050). An important component of that legislation was the directive for these Lead Entities to develop a habitat work schedule, (synonymous with the implementation schedule) that "*ensures salmon restoration activities will be prioritized and implemented in a logical and sequential manner that produces habitat capable of sustaining healthy populations of salmon.*" (RCW 75.85.060(1)) Since the enabling legislation in 1998, these schedules have been substantially refined to address the limiting factors and Viable Salmonid Population (VSP) criteria in the recovery plans.

As the Regional Organizations completed their draft recovery plans and submitted them to GSRO and federal agencies, the SRFB began the policy transition toward funding the implementation of the regional recovery plans. The GSRO requested each region develop a three-year Implementation Schedule that includes efforts to secure commitments by local governments and others to the plan. This may be in the context of developing a longer, multi-year implementation schedule for the recovery plan. This Implementation Schedule is to encourage coordination with federal processes for implementation of salmon recovery actions, particularly the FCRPS Biological Opinion, the Northwest Forest Plan, Chelan and Douglas PUD HCPs, and other processes. Moreover, the Regional Organizations were to ensure that their monitoring strategy is consistent with the Implementation Schedule (discussed below).

At a minimum, the Implementation Schedules contain the following elements: 1) an identification of the habitat limiting factors for each population within the ESU, consistent with the recovery plan; 2) the habitat action to rectify or ameliorate that limiting factor; 3) the relation of this action to VSP criteria identified in the recovery plan; 4) the expected time frame of that action; and 5) the anticipated cost. At this time, some schedules provide higher levels of specificity, including the project start date, duration, estimated date of completion, and the source of funding. As specified in the recovery plans, Implementation Schedules are to be updated at pre-determined intervals, which vary by Regional Organization, but are typically every three years. In 2005, the SRFB provided funds for the Regional Organizations to develop the first of these Implementation Schedules in a manner consistent with the recovery plans.

2. Project Development

In 2006, the SRFB began a transition toward funding at the regional level, as defined by GSRO, NMFS, and USFWS. There are six Regional Organizations at this time (Table 1). Depending on the location of the state, there may be from one to 14 Lead Entities within a recovery region; typically those regions that are relatively complex and require additional administrative capacity (such as Puget Sound) have several Lead Entities that work in concert with the Regional Organization.

The goal of Lead Entities is to solicit and prioritize projects within their defined geographic areas, using a citizen committee of representative interests, which are consistent with the implementation schedule. This program is supported by WDFW, which assists Lead Entities in developing and maintaining science-based habitat restoration and protection programs that are community supported. A significant outcome of the Lead Entity's work is improved coordination and communication between the various groups active in salmon habitat projects.

In a typical grant cycle, the SRFB announces the timelines and procedures for funding habitat protection and restoration projects. In collaboration with Lead Entities and other agencies, the SRFB then conducts application workshops and other informational sessions for the grant program at the request of the Regional Organizations. The intent is to provide the public, potential sponsors and interested organizations with an opportunity to learn about SRFB funding programs. The Lead Entities then solicit projects from sponsors within the assigned geographic area, ensure a formal technical review and ranking process (described below), and submit a project list to SRFB that reflects the ranking in terms of fit to the recovery plan Implementation Schedule.

3 Technical Review Process

The role of regional technical teams is to conduct technical review of the projects under the broad categories of benefits to salmonids and certainty of success. At a minimum, the technical teams evaluate the fit of the Lead Entity project lists to the recovery plans, but the SRFB is placing an increased reliance on the technical teams to provide recommendations on the merits of the implementation schedules. The technical teams vary by Regional Organization, but most have established membership criteria and operating procedures.

When Regional Organizations adopted the draft salmon recovery plans, the technical teams revised their project rating criteria based on VSP parameters established in the plans. These criteria were then reviewed by the Lead Entities, Regional Organizations and Project Sponsors. The project review technical criteria are consistent with the recovery plans and are summarized as follows:

- Benefit to VSP abundance and/or productivity;
- Benefit to VSP spatial structure and/or diversity;
- Does it address one or more limiting factors identified in the Recovery Plan?
- Is this a priority watershed for the populations?
- Is the project in an assessment unit that is part of or includes a major or minor spawning area?

- Is this project dependent on other key conditions or processes being addressed first (sequencing)?
- Is the project design adequate to achieve the stated objectives?
- Permitting feasibility;
- Reflection of cost estimate on all expected tasks;
- Is implementation monitoring adequate?

Fix-It Loop Reviews: The Lead Entities and technical teams may invite sponsors of potential projects to present their preliminary project plans at workshops. The purpose of the workshops is to provide a technical review of the pre-proposals to be submitted to the SRFB. The recommendations are meant to help project sponsors improve their final applications, but not be an exhaustive list of technical issues related to each project.

Project Tours: Within a regional salmon recovery area, members of the Lead Entities, Citizen's Committees, technical team, SRFB Science Review Panel, and SRFB Staff tour the projects on site and provide additional comments to the sponsors on means to improve the technical merit of their projects. These tours also facilitate productive discussions among all parties on local priorities in project development and consistency with the regional Implementation Schedule.

Formal Technical Reviews: When the final proposals are submitted, the technical teams provide formal ratings and comments to the projects, based on the review criteria described above. These comments are provided to the project sponsors, Lead Entities, and their Citizens' Committees. Sponsors are typically given an opportunity to include an addendum to their application to provide additional information or clarification, in response to the technical ratings and comments.

SRFB Science Review Panel: To help ensure that every project funded by the SRFB is technically sound, a statewide SRFB Science Review Panel is established. It identifies projects it believes have low benefit to salmon, a low likelihood of being successful, and/or have costs that outweigh the anticipated benefits of the project. The Science Review Panel will not otherwise rate, score, or rank projects. The Panel will take into account that at the time of application to the SRFB, some restoration projects will not have been completely designed and some acquisition projects may not have specific parcels identified. It is expected that projects will follow Best Management Practices, when available, and will meet any state and federal permitting requirements. The SRFB Science Review Panel also ensures that project designs are consistent with approved Washington State technical guidance contained in one or more of the following publications:

- Washington Administrative Code rules for Hydraulic Project Approval (WDFW 1998a);
- Integrated Streambank Protection Guidelines (WDFW 1998b);
- Stream Corridor Restoration Principles, Processes, and Practices (Federal Interagency Stream Protection Working Group 1998c);
- Upstream Fish Passage at Dams and Culverts (WDFW 2003a);

- Fish Protection at Screens and Water Diversions (WDFW 2003);
- Stream Habitat Restoration Guidelines (WDFW 2004).

For restoration and protection projects, the SRFB Review Panel will determine that a project is not technically sound and cannot be significantly improved if:

- It is unclear there is a problem to salmonids the project is addressing.
- The information provided in the proposal, or current understanding of the system, is not sufficient to determine the need for, or the benefit of, the project.
- The project is dependent on other key conditions or processes being addressed first.
- The project has a high cost relative to the anticipated benefits and the project sponsor and lead entity have failed to justify the costs.
- The project does not account for the conditions or processes in the watershed.
- The project may be in the wrong sequence with other habitat protection, assessments, or restoration actions in the watershed.
- The project uses a technique that has not been considered successful in the past.
- It is unclear how the project will achieve its stated objectives.
- It is unlikely that the project will achieve its stated objective.
- There is low potential for threat to habitat conditions if the protection project is not completed.
- The project design is not adequate or the project is improperly sited.
- The stewardship description is insufficient or there is inadequate commitment to stewardship and maintenance of the project and this would likely jeopardize the project's success.
- In addition to applying the above criteria, the Review Panel will identify projects that have not been shown to address an important habitat condition or watershed

4 Project Ranking

After the technical reviews are completed, the Lead Entity Citizens' Committees rank the projects in a manner consistent with the recovery plan Implementation Schedules. This ranking is submitted to the Regional Organization for endorsement, prior to submission to the SRFB. The Lead Entities Citizens' Committees, rank projects based on the following generalized criteria:

- Benefits to fish (and linkage to the salmon recovery plan and implementation schedule)
- Certainty of success
- Project longevity
- Project size
- Community support
- Economics

5 Project Effectiveness Monitoring

In 2001, Governor Locke signed into law Substitute Senate Bill 5637, an act relating to monitoring of watershed health and salmon recovery. This law requires a Monitoring Oversight Committee develop a comprehensive statewide strategy for monitoring

watershed health, with a focus on salmon recovery. The law incorporates monitoring recommendations provided by the state Independent Science Panel in its report to the Governor and Legislature in December 2000. The law also requires development of a state agency action plan that phases in full implementation of the Monitoring Strategy by 2007. Consistent with this statewide strategy, each regional recovery plan contains guidance for monitoring and adaptive management, and provides the framework for implementation, status and trends, and effectiveness monitoring. The projects funded by SRFB are evaluated for implementation and watershed and/or reach-scale effectiveness monitoring.

Additionally, in 2004 the SRFB established "intensively monitored watersheds" in four areas of the state to answer the question "Are restoration action actually creating more salmon within the watershed where restoration projects are being funded?" The program compares the changed in salmon abundance in streams where projects are occurring to streams where no restoration actions are ongoing. The goals are to evaluate changes in salmon production and to identify needs for future restoration projects funded by SRFB.

WASHINGTON STATE SUBMITTAL PACKAGE

Attachment B
DEFINITIONS OF RESTORATION PROJECT TYPES
ELIGIBLE FOR SRFB FUNDING

IN-STREAM DIVERSIONS includes those items that affect or provide for the withdrawal and return of surface water to include the screening of fish from the actual water diversion (dam, headgate), the water conveyance system (both gravity and pressurized pump), and the by-pass of fish back to the stream.

Diversion dam - A human-made structure or installation to divert water from a stream, river or other surface water body for a specific purpose such as municipal, industrial, agricultural, hydroelectric generation, etc. A diversion dam project may include replacement or modification of a diversion dam to improve fish passage.

Fish by-pass - Gravity fish screens (see definition below) that are installed downstream of the diversion headgate usually require a "fish by-pass system" to collect fish from in front of the screen and safely transport them back to the stream. The fish by-pass consists of an entrance/flow control section and a fish conveyance channel or pipeline. A portion of the diverted flow used to transport fish from in front of the fish screen back to the stream through the fish by-pass system. Fish by-pass flow requires positive hydraulic head differential between the water surface at the screen and the water surface at the by-pass outfall to the stream.

Fish screen (gravity) and fish screen (pump) - A fish protection device installed at or near a surface water diversion headgate to prevent entrainment, injury or death of targeted aquatic species. Fish screens physically preclude fish from entering the diversion and do not rely on avoidance behavior like electrical or sonic fish barrier technology. Fish screens are categorized by: 1) diversion type (gravity vs. pump), and 2) debris cleaning function ("active" or automatic vs. "passive" or manual cleaning).

Headgate - A structure that uses gates to control the flow of water from a surface water source (such as a stream or lake) into a water conveyance facility (such as a canal, ditch or pipeline) that uses gravity to move water through for irrigation or other purposes.

Log control (weir) – A log structure placed in the streambed to influence water flow, gradient, sediment, bed elevation, or other stream functions.

Permits – Any work related to applying for and securing necessary construction permits from various governmental agencies in order to legally perform work on the project site(s).

Pipes & ditches – Metal pipes and man-made ditches constructed for the purpose of conveying water to or from a stream or well.

Rock control (weir) - A rock structure placed in the streambed to influence water flow, gradient, sediment, bed elevation, or other stream functions.

Signage – Work related to designing, building, and installing signs at a restoration or acquisition site to identify the site to the public (specifying site purpose, owner, and/or contact information); to provide information about the site to visitors (e.g.: interpretive signs describing wildlife, ecology, history, etc.); to provide parking information and directions to visitors (e.g.: parking lot signs); or to provide safety information to visitors (e.g.: hazard information).

Site maintenance – Any work related to preserving the project worksite as it was constructed in order to protect the original investment and intent of the project. May include weeding, repairs related to weather damage, vandalism, etc.

Work site restoration – Work related to returning a work site to its original state after project construction work is completed. May include contouring the landscape to a proper angle of repose, re-connecting utilities, revegetation, fencing, etc.

IN-STREAM PASSAGE includes those items that affect or provide fish migration up and downstream to include road crossings (bridges and culverts), barriers (dams, log jams), fishways (ladders, chutes, pools), and log and rock weirs.

Bridge – A water-crossing (over-water structure) that retains or restores natural channel conditions; maintains ecological connectivity; avoids geologically unstable areas; considers cumulative culvert impact for direct loss of habitat; and minimizes streambank vegetation disturbance.

Carcass placement – In-stream placement of fish carcasses to enhance nutrient levels (such as nitrogen) in the stream ecosystem, including the water column, sediments, vegetation, and biota.

Culvert improvements – The removal and/or installation of either a new or replacement of a stream conduit structure to enable fish passage and stream function (e.g.: water flow) under a stream crossing such as a road or a bridge.

Dam removal – Work to remove any human-made structure that results in an abrupt change in surface water elevation (e.g.: a concrete water diversion structure, or a failed log control system along a stream). Dams are removed because they may impede fish and sediment passage.

Debris removal – Work to remove any non-living unwanted material at a restoration or acquisition site (e.g.: human-made materials such as derelict vehicles and

garbage, or natural materials such as landslide materials including soil and gravel).

Diversion dam - A human-made structure or installation to divert water from a stream, river or other surface water body for a specific purpose such as municipal, industrial, agricultural, hydroelectric generation, etc. A diversion dam project may include replacement or modification of a diversion dam to improve fish passage.

Fishway – A structure or system that is designed to facilitate fish passage. Components of a fishway may include: fish attraction features, a barrier dam, entrances, auxiliary water systems, collection and transportation channels, a fish ladder, an exit, and operating and maintenance standards. Fishways can be formal concrete structures, pools blasted in the rock of a waterfall, or log controls in the bed of a channel. Fishways can be divided into six classifications based on their hydraulic design and function: pool and weir; vertical slot; roughened channels; hybrid fishways; mechanical fishways; and culverts.

Log control (weir) – A log structure placed in the streambed to influence water flow, gradient, sediment, bed elevation, or other stream functions.

Mobilization – Getting necessary equipment or supplies (earth-moving equipment, for example) moved to the project work site in order to begin construction/restoration work. Does not include procurement of supplies or equipment to be used during construction/restoration.

Permits – Any work related to applying for and securing necessary construction permits from various governmental agencies in order to legally perform work on the project site(s).

Rock control (weir) - A rock structure placed in the streambed to influence water flow, gradient, sediment, bed elevation, or other stream functions.

Roughened channel – Work related to increasing coarseness and texture in the stream channel using natural streambed materials such as baffles, rocks, boulders, or log structures in order to reduce water velocity and facilitate fish passage.

Signage – Work related to designing, building, and installing signs at a restoration or acquisition site to identify the site to the public (specifying site purpose, owner, and/or contact information); to provide information about the site to visitors (e.g.: interpretive signs describing wildlife, ecology, history, etc.); to provide parking information and directions to visitors (e.g.: parking lot signs); or to provide safety information to visitors (e.g.: hazard information).

Site maintenance – Any work related to preserving the project worksite as it was constructed in order to protect the original investment and intent of the project. May include weeding, repairs related to weather damage, vandalism, etc.

Traffic control – Any work related to managing vehicular travel in and around the work site during or after the project construction period (includes traffic signals). For example, traffic may need to be temporarily re-routed to avoid a construction area, or permanently re-routed.

Utility crossing - Connecting, reconnecting, or moving electrical, phone, cable, natural gas, water or sewer lines.

Water management – Example is routing water around a project while under construction or off-site watering.

Work site restoration – Work related to returning a work site to its original state after project construction work is completed. May include contouring the landscape to a proper angle of repose, re-connecting utilities, revegetation, fencing, etc.

IN-STREAM HABITAT includes those freshwater items that affect or enhance fish habitat below the ordinary high water mark of the water body. Items include work conducted on or next to the channel, bed, bank, and floodplain by adding or removing rocks, gravel, or woody debris. Other items necessary to complete the project may include livestock fencing, water conveyance, and plant removal and control.

Bank stabilization – Work related to stabilize a streambank through planting vegetation (bioengineering), soil reinforcement, and/or minimal artificial streambank protection (such as a toe rock at the base of a slope) in order to minimize erosion and sedimentation. Bank stabilization projects should most closely mimic naturally stabilized banks within the vicinity of the project location.

Carcass placement – In-stream placement of fish carcasses to enhance nutrient levels (such as nitrogen) in the stream ecosystem, including the water column, sediments, vegetation, and biota.

Channel connectivity – Any work that results in connecting a new or reconnecting an existing stream channel to a larger stream system to improve fish habitat (i.e.: improves fish passage, improves water flows, provides additional spawning or rearing habitat, etc.).

Channel reconfiguration – Any work to either create a new stream channel or redesign an existing stream channel to improve fish habitat (i.e.: results in improved stream function, stream sinuosity, modified stream flows, etc.)

Complex log jams (also known as Engineered Log Jams, or ELJ's) – Permanent in-stream flow control structures based on the architecture of naturally occurring stable log jams in large river systems, designed to mimic natural log jams and remain fixed in the channel. They contain key pieces of wood large enough to alter the course of the river channel and capture additional wood, may provide

bank protection, and provide fisheries habitat value by enhancing habitat complexity.

Deflectors/barbs/vanes – An in-stream structure used to influence or redirect the flow, pattern, or hydraulics of a stream in order to reduce or increase the erosive forces acting on a stream bank or streambed. Generally involves placing material (such as boulders, rocks, gabions, logs, etc.) in a stream channel at specific locations to gain a specific effect.

Dike removal/setback – Work related to removing or moving away from the stream or marine shoreline a water-retaining structure that was originally built to control/divert stream flows and protect farmland or other property from flooding. Removal or setback is intended to promote natural stream or estuary flow (e.g.: tidal action) and restore natural ecological functions.

Livestock fencing/crossing – Work related to installing fencing material upland to control livestock access to a surface water supply, stream bank, or the waterbody itself. Also called "exclusion fencing."

Log control (weir) – A log structure placed in the streambed to influence water flow, gradient, sediment, bed elevation, or other stream functions.

Off-channel habitat – Any work related to designing, building, and installing fish habitat separate from, but connected to, the main stream channel for the purposes of improving or creating new habitat for fish to rear and spawn (including resting, feeding, etc.).

Permits – Any work related to applying for and securing necessary construction permits from various governmental agencies in order to legally perform work on the project site(s).

Plant removal/control – Work related to removing or controlling through manual, mechanical, or chemical means any unnecessary, non-native, and/or invasive vegetation on the site for the purposes of restoring the site for beneficial fish and wildlife habitat.

Riparian plant installation – Work related to planting native vegetation along a waterbody or in a riparian zone to prevent soil erosion and landslides; discourage invasion of non-native vegetation; and provide important ecological functions to the waterbody, fish, and wildlife such as shading, organic matter, filtration, etc.

Riparian plant materials – The procurement of native vegetation used during Reveg-plant installation.

Rock control (weir) - A rock structure placed in the streambed to influence water flow, gradient, sediment, bed elevation, or other stream functions.

Roughened channel – Work related to increasing coarseness and texture in the stream channel using natural streambed materials such as baffles, rocks, boulders, or log structures in order to reduce water velocity and facilitate fish passage.

Signage – Work related to designing, building, and installing signs at a restoration or acquisition site to identify the site to the public (specifying site purpose, owner, and/or contact information); to provide information about the site to visitors (e.g.: interpretive signs describing wildlife, ecology, history, etc.); to provide parking information and directions to visitors (e.g.: parking lot signs); or to provide safety information to visitors (e.g.: hazard information).

Site maintenance – Any work related to preserving the project worksite as it was constructed in order to protect the original investment and intent of the project. May include weeding, repairs related to weather damage, vandalism, etc.

Spawning gravel placement – Any work related to introducing properly-sized fish spawning substrate (i.e.: gravel) to the channel. Includes streambed control structures to keep the gravel in place.

Wetland restoration – Work related to enhancing or restoring an existing marine or freshwater wetland feature in order to improve fish use.

Woody debris placement – Any work related to design or engineering, procurement, and/or installation of wood structures in a stream channel or riparian area for the purposes of providing improved fish habitat and stream channel complexity.

RIPARIAN HABITAT includes those freshwater, marine near-shore, and estuarine items that affect or will improve the riparian habitat outside of the ordinary high water mark or in wetlands. Items may include plant establishment/removal/management, livestock fencing, stream crossing, and water supply.

Livestock fencing – Work related to installing fencing material upland to prevent livestock from having access to a surface water buffer, surface water bank, or the waterbody itself. Also called “exclusion fencing.”

Livestock stream crossing – Work related to building and installing a “fish friendly” (non-barrier) stream crossing structure (such as a bridge) for livestock to use that is intended to eliminate livestock access to and resulting damage of a stream. The crossing should be designed so that it does not hinder fish passage in the stream.

Livestock water supply – Work related to building and installing an upland watering area for livestock to use to direct them away from using streams for their water supply.

Log control (weir) – A log structure placed in the streambed to influence water flow, gradient, sediment, bed elevation, or other stream functions.

Permits – Any work related to applying for and securing necessary construction permits from various governmental agencies in order to legally perform work on the project site(s).

Plant removal/control – Work related to removing or controlling through manual, mechanical, or chemical means any unnecessary, non-native, and/or invasive vegetation on the site for the purposes of restoring the site for beneficial fish and wildlife habitat.

Riparian plant installation - Work related to planting native vegetation along a waterbody or in a riparian zone to prevent soil erosion and landslides; discourage invasion of non-native vegetation; and provide important ecological functions to the waterbody, fish, and wildlife such as shading, organic matter, filtration, etc.

Riparian plant materials – The procurement of native vegetation used during Reveg-plant installation.

Rock control (weir) - A rock structure placed in the streambed to influence water flow, gradient, sediment, bed elevation, or other stream functions.

Signage – Work related to designing, building, and installing signs at a restoration or acquisition site to identify the site to the public (specifying site purpose, owner, and/or contact information); to provide information about the site to visitors (e.g.: interpretive signs describing wildlife, ecology, history, etc.); to provide parking information and directions to visitors (e.g.: parking lot signs); or to provide safety information to visitors (e.g.: hazard information).

Site maintenance – Any work related to preserving the project worksite as it was constructed in order to protect the original investment and intent of the project. May include weeding, repairs related to weather damage, vandalism, etc.

Wetland restoration – Work related to enhancing or restoring an existing marine or freshwater wetland feature in order to improve fish use.

Woody debris placement – Any work related to design or engineering, procurement, and/or installation of wood structures in a stream channel or riparian area for the purposes of providing improved fish habitat and stream channel complexity.

UPLAND HABITAT includes those items or land use activities that affect water quality and quantity important to fish, but occur above the riparian or estuarine area. Items include the timing and delivery of water to the stream; sediment and water temperature control; plant removal, control, and management; and livestock fencing and water supply.

Alternate water source – Providing an upland water source for irrigation or livestock in order to prevent livestock from entering rivers and streams to drink water.

Erosion control (road) – Work related to minimizing or eliminating erosion impacts to a waterbody caused by upland roads. May include road removal or road resurfacing (e.g.: from pavement to gravel). Also see Road abandonment/decommissioning below.

Erosion control (slope) – Work related to minimizing or eliminating erosion impacts to a waterbody caused by upland slope failure (e.g.: landslides).

Impervious surface removal – Work related to removing any human-made structure from the ground that inhibits or prevents water from being absorbed into the soil (e.g.: asphalt parking lot, old building foundation, or road).

Livestock fencing – Work related to installing fencing material upland to prevent livestock from having access to a surface water buffer, surface water bank, or the waterbody itself. Also called "exclusion fencing."

Low/no till – An agricultural cultivation technique in which the soil is minimally disturbed (not tilled). Farmers instead apply detritus from previous crops on seedbeds to protect the seeds. The primary benefit of this practice is decreased soil erosion into streams.

Permits – Any work related to applying for and securing necessary construction permits from various governmental agencies in order to legally perform work on the project site(s).

Pipes & ditches – metal pipes and man-made ditches constructed for the purpose of conveying water to or from a stream or well.

Plant removal/control – Work related to removing or controlling through manual, mechanical, or chemical means any unnecessary, non-native, and/or invasive vegetation on the site for the purposes of restoring the site for beneficial fish and wildlife habitat.

Riparian plant installation - Work related to planting native vegetation along a waterbody or in a riparian zone to prevent soil erosion and landslides; discourage invasion of non-native vegetation; and provide important ecological functions to the waterbody, fish, and wildlife such as shading, organic matter, filtration, etc.

Riparian plant materials – The procurement of native vegetation used during Reveg-plant installation.

Road abandonment/decommissioning – Any work related to taking a road out of service to minimize or eliminate erosion impacts to a waterbody. Includes

removing road signs, road pavement or surface, and/or replacing impervious surfaces with vegetation or gravel to prevent further erosion.

Sediment collection ponds – Man-made structures or excavations in or near waterways for the purpose of collecting sediment eroded from uplands or stream channels.

Signage – Work related to designing, building, and installing signs at a restoration or acquisition site to identify the site to the public (specifying site purpose, owner, and/or contact information); to provide information about the site to visitors (e.g.: interpretive signs describing wildlife, ecology, history, etc.); to provide parking information and directions to visitors (e.g.: parking lot signs); or to provide safety information to visitors (e.g.: hazard information).

Site maintenance – Any work related to preserving the project worksite as it was constructed in order to protect the original investment and intent of the project. May include weeding, repairs related to weather damage, vandalism, etc.

ESTUARINE/MARINE NEARSHORE includes those items that affect or enhance fish habitat within the shoreline riparian zone or below the mean high water mark of the water body. Items include work conducted in or adjacent to the intertidal area and in subtidal areas. Items may include beach restoration, bulkhead removal, dike breaching, plant establishment/removal/management, and tide channel reconstruction.

Beach nourishment – The placement of appropriately sized, quantity, and composition of material for the restoration of naturally occurring nearshore/marine processes.

Bulkhead removal/reconstruction – Work related to removing human-made structures from the marine shoreline that were originally placed to prevent shoreline erosion and solidify and strengthen the shoreline profile. These structures, also known as bulkheads, can be made of wood, metal, rock, concrete, plastic, or other materials.

Clear and grub – The complete removal of living or dead standing or down vegetation through the use of mechanical means, fire and/or herbicides.

De-water/diversion dam– The use of structural or mechanical methods to remove, reduce, or redirect the flow of water in a stream as a means to facilitate the construction of a tide gate, culvert, bridge, or fish passage facility.

Derelict gear removal – The removal from the water of any unused or unclaimed man-made device used to net or trap fish.

Dike breaching/removal – The process of removing or breaking through all or part of a man-made dike to restore natural tidal exchange in an historical estuarine environment such as a river delta.

Erosion control – The use of structural methods to control the processes or group of processes whereby surface soil and rock is loosened, dissolved or worn away and moved from one place to another by natural processes.

Excavation – The physical or mechanical removal of soil, rock, wood, or debris from a specific site.

Flushing/partial passage – The removal of full or partial blockages to marine tidal water flushing.

Landfill/debris removal – The removal of upland refuse (garbage and other disposed materials) contained in a municipal landfill that is posing a threat to marine nearshore habitats and ecological processes.

Mobilization/demobilization – The process of creating a staging area and moving heavy equipment and mobile facilities to and from the project site before and after project implementation.

Permits – Any work related to applying for and securing necessary construction permits from various governmental agencies in order to legally perform work on the project site(s).

Plant removal/control – The removal/control of non-native plant species within the nearshore/marine environment.

Riparian plant installation - Work related to planting native vegetation along a waterbody or in a riparian zone to prevent soil erosion and landslides; discourage invasion of non-native vegetation; and provide important ecological functions to the waterbody, fish, and wildlife such as shading, organic matter, filtration, etc.

Riparian plant materials – The procurement of native vegetation used during Reveg-plant installation.

Road repair/asphalt– Any roadwork specifically related to repairing or maintaining water control or road safety and visibility on an existing road.

Shoreline restoration – Work related to improving the fish habitat of a marine beach area by encouraging natural, self-sustaining ecological processes. Work may include: removing contamination, removing structures, removing invasive or non-native vegetation, removing debris, enhancing beach substrate by adding natural materials (gravels, sand, etc), planting native vegetation, beach nourishment, re-grading beach profile, etc.

Signage – Work related to designing, building, and installing signs at a restoration or acquisition site to identify the site to the public (specifying site purpose, owner, and/or contact information); to provide information about the site to visitors (e.g.:

interpretive signs describing wildlife, ecology, history, etc.); to provide parking information and directions to visitors (e.g.: parking lot signs); or to provide safety information to visitors (e.g.: hazard information).

Site maintenance – Any work related to preserving the project worksite as it was constructed in order to protect the original investment and intent of the project. May include weeding, repairs related to weather damage, vandalism, etc.

Tidal channel reconstruction – The reconstruction/restoration of tidal channels historically removed from the confluence of a riverine delta and estuarine system.

Tide gate removal/improvements – The removal of tidegate(s) and the restoration of natural tidal flushing within the estuarine environment.

Traffic control – Any work related to managing vehicular travel in and around the work site during or after the project construction period (includes traffic signals). For example, traffic may need to be temporarily re-routed to avoid a construction area, or permanently re-routed.